

Claims:

(1) A method for the production of acrylic acid which comprises

5 (a) a step for obtaining an acrylic acid-containing gas by catalytic gas phase oxidation,

(b) a step for obtaining an aqueous acrylic acid-containing solution by absorbing the acrylic acid-containing gas with an aqueous absorbing solvent,

10 (c) a step for obtaining crude acrylic acid by dehydration and/or removing low boiling substance from said aqueous acrylic acid-containing solution,

(d) a step for obtaining acrylic acid and a high boiling substance-containing solution by removing the high boiling substance from said crude acrylic acid, and

15 (e) a step for recovering acrylic acid by thermally decomposing an acrylic acid oligomer contained in said high boiling substance-containing solution,

which method is characterized by performing at least either of (i) a step for introducing a polymerization inhibitor to
20 a stage other than the stage for supplying a raw material and the stage for supplying a reflux of said distilling column or (ii) a step for supplying the acrylic acid recovered by thermally decomposing said oligomer to said step for obtaining crude acrylic acid by dehydration.

25 (2) A method according to claim 1, which further comprises performing the following step (iii) and/or (iv);

(iii) a step for supplying a polymerization inhibitor containing solution together with an acrylic acid containing solution with an atomizing injecting means,

30 (iv) a step for thermally decomposing the oligomer contained in said high boiling substance-containing solution thereby lowering the concentration of maleic acid contained in the

recovered acrylic acid solution to a level of not higher than 5 wt. %.

(3) A method according to claim 1, which further comprises;

(f) a step for esterifying the acrylic acid obtained in said step (e) thereby producing an acrylic ester, or

(g) a step for further purifying the acrylic acid obtained in said step (e) thereby obtaining acrylic acid of high purity.

(4) A method according to claim 1, wherein a tank and/or a cooler is installed between said steps (b) - (g) and the subsequent step is carried out therewith.

(5) A method for the production of a polyacrylic acid (salt), characterized by producing said polyacrylic acid (salt) by using the acrylic acid of high purity obtained at the step (g) set forth in claim 3 or claim 4.

(6) A method according to claim 5, wherein a tank and/or a cooler is installed between said step (g) and a step for producing the polyacrylic acid (salt).